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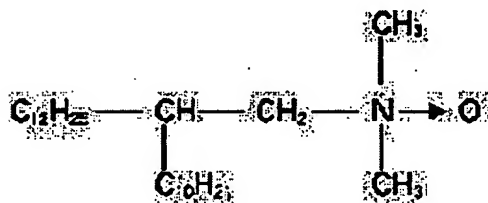
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(54) COMPOSITION FOR SKIN OF SCALP AND HAIR

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain a composition for skin of scalp and hair having excellent trichogenous effect, depilation inhibiting effect and scurf and pruritus inhibiting effect and safety by including decyltetradecyldimethylamine oxide and a specific inhibitor.

SOLUTION: This composition preferably includes (A) 0.001 to 20 wt.%. (based on whole composition) of the decyltetradecyldimethylamine oxide and (B) 0.001 to 10% of the testosterone 5 α reductase inhibitor. The preferable component (B) is solvent extracted vegetable extracts of one or more kinds of plants selected from Gambir, Foeniculum vulgare Miller, Glycyrrhiza glabra hinne, etc., or oxendolone, or Finasteride and the compound expressed in the formula such as 2-decyltetradecyldimethylamine oxide or the like is preferably used as the component (A).



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CLAIMS

[Claim(s)]

[Claim 1] the scalp characterized by containing decyl tetradecyl dimethylamine oxide and a testosterone 5alpha reductase inhibitor -- the constituent for the hairs.

[Claim 2] Said testosterone 5alpha reductase inhibitor Cube gambir, achicolia, IERUBARUISA, a yew, INCHIN, WORO, a fennel, a common mallow, Rose Fruit, ORUTIGANIGURA, a polygala root, Prunellae Spica, KAKOCHA, a polygoni radix, A cuckoo thistle, a valerian, guarana, cardo SANTO, liquorice, a Japanese catalpa, A common marigold, Osmanthus fragrans, Schizonepetae herba, a pharbitidis semen, a Geranium thunbergii Sieb. et Zucc., Cuachalalate, Chelidonium, KUMASEBA, a gallnut, Arctii fructus, coriander, Cassia, Phycho, a gardeniae fructus, a physalis radix, a peony, Plantaginis semen, JANKAN, Jo Zhang, a cedron, bufonis venenum, SOKUHAKUYOU, perilla herb, Rhei rhizoma, Daun trawas, Chanca Piedra, caryophylli flos, picrasma wood, the scalp according to claim 1 characterized by being the solvent extraction extract of a kind or two sorts or more of vegetation chosen from the group which consists of areca, a matico, a Chinese quince, Leonuri Herba, a climax lespedeza, a coix seed, REGURO, rosin, and cotton, oxendolone, or finasteride -- the constituent for the hairs.

[Claim 3] the content of said decyl tetradecyl dimethylamine oxide -- the scalp -- the scalp according to claim 1 or 2 characterized by being 0.0001 - 20 % of the weight to the constituent whole quantity for the hairs -- the constituent for the hairs.

[Claim 4] the content of said testosterone 5alpha reductase inhibitor -- the scalp -- the scalp

according to claim 1, 2, or 3 characterized by being 0.001 - 10 % of the weight to the constituent whole quantity for the hairs -- the constituent for the hairs.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] this invention -- the scalp -- it is related with the constituent for the hairs. the hair-growing effectiveness and the unhairing prevention effectiveness of having excelled in more detail, and a dandruff -- the scalp which has the - pruritus prevention effectiveness and was excellent in safety -- it is related with the constituent for the hairs.

[0002]

[Description of the Prior Art] the scalp -- various classes to the constituent for the hairs -- it is -- various scalp -- the product corresponding to a hair condition is developed as the charge of hair makeup, a hair restorer, etc. For example, the product which prevents unhairing is developed by preventing the dandruff and pruritus in the scalp.

[0003] the scalp corresponding to a trouble [in / various troubles in the scalp are also accompanying by it and increasing buildup of social stress by the end of today when the aging society was greeted, and / the scalp] -- the need of the charge of hair makeup is increasing rapidly.

[0004] Generally, the bald head of a head, unhairing, and hair become thin, and lowering, stress, etc. of activation of the male sex hormone in organs, such as a sebaceous gland of a hair root, superfluous sebum secretion, generation of peroxy lipid, and the blood stream to the hair follicle are mentioned as causes, such as a dandruff of the scalp, and pruritus.

[0005] moreover, the case where alimentation to sufficient hair follicle cannot be performed when raising strong and beautiful hair -- the vellus -- it becomes thin and becomes a woolen cause. Moreover, lowering of the blood stream to the hair follicle brings a result which causes lowering of the function of the undernutrition and wastes of elimination.

[0006] It becomes the point indispensable when solving the trouble of the scalp and the hair with improving lowering of the blood-flow function in the scalp at least from such a viewpoint to improve a turnover, superfluous sebum secretion, etc. of a horny layer in the scalp.

[0007] the conventional scalp -- the constituent for the hairs blends the matter with the operation which generally removes the element considered to be the cause of these bald heads and unhairing, or is mitigated. For example, skin hyperergasia agents, such as hormone drugs for women, such as anti-inflammatory agents, such as vasodepressor, such as amino acid, such as vitamins, such as vitamin B and vitamin E, a serine, and a methionine, a sialid extract, and an acetylcholine derivative, and a lithospermiradix extract, and estradiol, and cepharanthin, etc. are blended, and it is used for the prevention and the therapy for which a bald head, unhairing, and hair become thin.

[0008]

[Problem(s) to be Solved by the Invention] however, these -- a component -- a little chisel -- the scalp -- even if blended into the constituent for the hairs, since an activity part and the inclination accompanied by a feeling of a stimulus and the rubor deep to the circumference of it would become strong if it blends with reverse so much difficultly, the loadings had a limit, and acquiring sufficient effectiveness had the trouble that desired effectiveness was not necessarily acquired fully.

[0009] the dandruff of the hair-growing effectiveness and the unhairing prevention effectiveness of

having excelled by blending combining decyl tetradecyl dimethylamine oxide and a testosterone 5alpha reductase inhibitor as a result of this invention person's etc. repeating research wholeheartedly in view of an above-mentioned viewpoint, and the scalp -- the scalp which has the - pruritus prevention effectiveness and is excellent also in safety -- it came to complete header this invention for the constituent for the hairs being obtained.

[0010] the dandruff of the hair-growing effectiveness and the unhairing prevention effectiveness that this invention was excellent, and the scalp -- the scalp which has the - pruritus prevention effectiveness and is excellent also in safety -- it aims at offering the constituent for the hairs.

[0011]

[Means for Solving the Problem] namely, the scalp characterized by this invention containing decyl tetradecyl dimethylamine oxide and a testosterone 5alpha reductase inhibitor -- the constituent for the hairs is offered.

[0012] Said testosterone 5alpha reductase inhibitor this invention Moreover, cube gambir, Achicolia, IERUBARUISA, a yew, INCHIN, WORO, a fennel, A common mallow, Rose Fruit, ORUTIGANIGURA, a polygala root, Prunellae Spica, KAKOCHA, a polygona radix, a cuckoo thistle, a valerian, guarana, cardo SANTO, Liquorice, a Japanese catalpa, a common marigold, Osmanthus fragrans, Schizonepetae herba, a pharbitidis semen, A Geranium thunbergii Sieb. et Zucc., Cuachalalate, Chelidonium, KUMASEBA, a gallnut, Arctii fructus, coriander, cassia, Phycho, a gardeniae fructus, a physalis radix, A peony, Plantaginis semen, Jean Quan, Jo Zhang, a cedron, bufonis venenum, SOKUHAKUYOU, perilla herb, rhei rhizoma, Daun trawas, Chanca Piedra, Caryophylli flos, picrasma wood, areca, a matico, a Chinese quince, Leonuri Herba, a climax lespedeza, the aforementioned scalp characterized by being the solvent extraction extract of a kind or two sorts or more of vegetation chosen from the group which consists of a coix seed, REGURO, rosin, and cotton, oxendolone, or finasteride -- the constituent for the hairs is offered.

[0013] furthermore, this invention -- the content of said decyl tetradecyl dimethylamine oxide -- the scalp -- the aforementioned scalp characterized by being 0.0001 - 20 % of the weight to the constituent whole quantity for the hairs -- the constituent for the hairs is offered.

[0014] moreover, this invention -- the content of said testosterone 5alpha reductase inhibitor -- the scalp -- the aforementioned scalp characterized by being 0.001 - 10 % of the weight to the constituent whole quantity for the hairs -- the constituent for the hairs is offered.

[0015]

[Embodiment of the Invention] Hereafter, the configuration of this invention is explained in full detail.

[0016] 2-decyl tetradecyl dimethylamine oxide which the decyl tetradecyl dimethylamine oxide used for this invention is a well-known compound, for example, is expressed with the following chemical formula is used preferably.

[Formula 1]

[0017] The testosterone 5alpha reductase inhibitor used for this invention It is the matter which controls the operation over the testosterone of testosterone 5alpha reductase, and sets to this invention. A desirable testosterone 5alpha reductase inhibitor Cube gambir, achicolia, IERUBARUISA, a yew, INCHIN, WORO, A fennel, a common mallow, Rose Fruit, ORUTIGANIGURA, a polygala root, Prunellae Spica, KAKOCHA, a polygona radix, a cuckoo thistle, a valerian, guarana, Cardo SANTO, liquorice, a Japanese catalpa, a common marigold, Osmanthus fragrans, Schizonepetae herba, A pharbitidis semen, a Geranium thunbergii Sieb.

etZucc., Cuachalalate, Chelidonium, KUMASEBA, A gallnut, Arctii fructus, coriander, cassia, Phycho, a gardeniae fructus, A physalis radix, a peony, Plantaginis semen, Jean Quan, Jo Zhang, a cedron, Bufonis venenum, SOKUHAKUYOU, perilla herb, rhei rhizoma, Daun trawas, Chanca Piedra, They are the solvent extraction extract of a kind or two sorts or more of vegetation chosen from the group which consists of caryophylli flos, picrasma wood, areca, a matico, a Chinese quince, Leonuri Herba, a climax lespedeza, a coix seed, REGURO, rosin, and cotton, oxendolone, or finasteride.

[0018] The solvent extraction extract of the above-mentioned vegetation is an extract by water or the organic solvent. For example, the terrestrial part of the above-mentioned vegetation, a flower, a seed, fruits, a leaf, a root, the desiccation powder of the entire plant, or a non-drying decision object By water, a methanol, ethanol, propylene glycol, 1, 3-butylene glycol, a butanol, chloroform, dichloroethane, the carbon tetrachloride, ethyl acetate, the ether, or such mixtures 30-70-degree C warming -- the bottom, a stirring extract can be carried out for 1 to 10 hours, or at a room temperature, it can extract during the 1st - the 20th, and can filter, filtrate can be condensed, and what carried out vacuum concentration further and hardened by drying can be used. In this invention, it can be used [the phase of concentration liquid, or] and can be used also in the phase of a hardening-by-drying object.

[0019] the loadings of decyl tetradecyl dimethylamine oxide -- the scalp -- it is 0.0001 - 20 % of the weight to the constituent whole quantity for the hairs, and is 0.05% - 5% % of the weight preferably. It gives [the scalp] an unpleasant feeling of stickiness, or a feeling of a stimulus on an activity and is not desirable, if hair-growing effectiveness sufficient at less than 0.0001 % of the weight, the unhairing prevention effectiveness, and the scalp play truant, and the - pruritus prevention effectiveness is not acquired but it exceeds 20 % of the weight.

[0020] moreover, the loadings of a testosterone 5alpha reductase inhibitor -- the scalp -- it is 0.001 - 5 % of the weight to the constituent whole quantity for the hairs, and is 0.01% - 5 % of the weight preferably. Since an unpleasant feeling of a stimulus may be given to a pharmaceutical preparation top or the scalp or a hormone action may be shown if unhairing prevention sufficient at less than 0.0001 % of the weight, the hair-growing effectiveness, and the scalp play truant, and the - pruritus prevention effectiveness is not acquired but it exceeds 10 % of the weight, it is not desirable. In addition, when a testosterone 5alpha reductase inhibitor is a vegetable solvent extraction extract, it is weight [as an extract after removing a hardening-by-drying object or an extracting solvent] %.

[0021] the scalp of this invention -- the constituent for the hairs can be manufactured with a conventional method according to the dosage forms which blend suitably solvents, such as other components usually used for the charge of makeup, for example, an oil content, a surfactant, a moisturizer, a thickener, an ultraviolet ray absorbent, an antioxidant, antiseptics, perfume, coloring matter, water, and alcohol, if needed, and are made into the object in the range which does not spoil the effectiveness of this invention other than the above-mentioned indispensable component.

[0022] the scalp of this invention -- if the constituent for the hairs is the external preparations applied to the scalp or the hair as the charge of makeup, drugs, and quasi drugs and it is the thing of pharmaceutical forms applicable to external use, such as a liquid, a milky lotion, ointment, a cream, gel, and aerosol, with the arbitrary for example, pharmaceutical form, any will be sufficient, for example, it will be used with gestalten, such as a tonic and a scalp treatment.

[0023]

[Example] Next, although an example is given and this invention is explained in more detail, this invention is not limited only to these examples. In the following examples, loadings are weight %. Moreover, decyl tetradecyl dimethylamine oxide used 2-decyl tetradecyl dimethylamine oxide.

[0024] the following trial about the example and the example of a comparison which are shown in "a table 1" and "a table 2", and the assessment approach -- the hair-growing effectiveness, the unhairing prevention effectiveness, and a dandruff -- the - pruritus prevention effectiveness was examined. The result is shown in "a table 3", "a table 4", and "a table 5."

[0025] "the hair-growing effectiveness trial" -- the scalp -- in order to investigate the hair-growing effectiveness operation of the constituent for the hairs, the TORIKO gram trial was carried out. A test subject is a male and was taken as each ten groups of an example and the example of a comparison. The duration of test considered as four months, and the sample was applied to the bis die and it applied 2-4ml per time to the scalp at the sample spreading period. just before spreading initiation and after four-month spreading termination -- per test subject -- from the parietal region -- random -- the terminal hair -- respectively -- every 50 -- extraction -- carrying out -- the hair root of an epilated hair -- the bottom of a microscope -- observing -- the hair root from the condition of a hair root -- the rate of a resting phase (%) was calculated. The rate of the change in the rate of a resting phase before and behind sample spreading was judged on the following criteria.

(Criterion)

remarkable effectiveness: -- a hair root -- the rate of a resting phase -- 30% or more reduction -- effective : a hair root -- the rate of a resting phase -- 20% or more reduction -- weak effectiveness : a hair root -- the rate of a resting phase has no 10% or more reduction effectiveness : a hair root -- the case where a test subject [that the rate of a resting phase is as effective as remarkable effectiveness as assessment of less than ten reduction or the increment (hair-growing effectiveness valuation basis) hair-growing effectiveness] exceeded 50% was confirmed, and others were taken as the invalid.

[0026] "the unhairing prevention effectiveness trial" -- the scalp -- in order to investigate the unhairing prevention effectiveness of the constituent for the hairs, change of the unhairing number by the shampoo before and behind the sample activity of an example and the example of a comparison was measured. A test subject is a male and was taken as each ten groups of the example of a comparison, and an example. The duration of test considered as six months, and sample non-applied period, and anaphase four months were made into the sample spreading period for [of the first half] two months. The sample was applied to the bis die and 2-4ml per time was applied to the scalp at the sample spreading period. Its hair was shampooed every other day, fallen hair was collected, a part for 1 week was summarized, and the number of the terminal hair was counted throughout [trial term]. Assessment of the number of fallen hair compared the last week average with the anaphase last week average in the first half using the fallen hair number per shampoo of a sample spreading period. This result was judged by the following criteria.

(Criterion)

++ : the fallen hair number was decreasing or more by 70, and remarkable effectiveness was accepted.

+ : the fallen hair number was decreasing or more by 40, and effectiveness was accepted considerably.

** : The fallen hair number was decreasing or more by ten, and effectiveness was accepted a little.

- : a fallen hair number is the increment in reduction of less than ten, or the number of fallen hair, and effectiveness was not accepted.

(Valuation basis) As assessment of the unhairing prevention effectiveness, the case where the percentage of the test subject of ++ and + was 50% or more was confirmed, and others were taken as the invalid.

[0027] "-- a dandruff - pruritus prevention effectiveness trial" -- especially -- a dandruff -- an object

[man / who appeals against - pruritus] -- carrying out -- each ten groups of the example of a comparison, and an example -- the dandruff after test termination - pruritus -- investigating -- a dandruff -- the inner amount of protein and extent of pruritus estimated. The sample spreading period shampooed its hair once per day with a drugs additive-free shampoo for three months in the meantime, and the sample was applied to the bis die and it applied 2-4ml per time to the scalp. the time of test termination -- a test subject -- before a shampoo -- an aspirator -- a head -- a dandruff -- extracting -- a dandruff -- the amount of inside protein was measured. Moreover, it investigated about the pruritus of the scalp to each test subject, and the extent was evaluated in accordance with the following criteria.

3: 2: with strong pruritus -- 1: with pruritus -- 0: which has pruritus a little -- [0028] which pruritus does not have The solvent extraction extract of the vegetation used in the example is as follows.

- (1) The fennel extract ground the dry matter of the fruits of a fennel (*Foeniculum vulgare* Miller), after extracting for one week under a room temperature in 70% ethanol, was filtered and used the concentrate which distilled off the solvent of filtrate.
- (2) The polygoni radix extract carried out the fragment of the dry matter of the tuberous root (polygoni radix) of *Polygonum multiflorum* (*Polygonum multiflorum* Thunbergii), after extracting under 50-degree-C heating in 50% ethanol for 5 hours, was filtered and used the concentrate which distilled off the solvent of filtrate.
- (3) The liquorice extract carried out the fragment of the root of liquorice (*Glycyrrhiza glabra* Linne or *glycyrrhiza uralensis* second Fisher), and the dry matter of a rhizome, after being underwater and extracting under 100-degree-C heating for 5 hours, was filtered and used the concentrate which distilled off the solvent of filtrate.
- (4) The Cuachalalate extract carried out the fragment of the dry matter of the bark of Cuachalalate (*Juliania adstringens*), after extracting under 50-degree-C heating in a methanol for 5 hours, was filtered and used the concentrate which distilled off the solvent of filtrate.
- (5) The coriander extract ground the dry matter of the fruits of coriander (*Coriandrum sativum* Linne), after extracting under 70-degree-C heating in 75% ethanol for 5 hours, was filtered and used the concentrate which distilled off the solvent of filtrate.
- (6) The physalis radix extract carried out the fragment of the dry matter of pericarp with which the physalis radix (*Zanthoxylum piperitum* De Candolle or in addition to this species of the same genus) matured, after extracting under 50-degree-C heating in ethanol for 5 hours, was filtered and used the concentrate which distilled off the solvent of filtrate.
- (7) The Jean Quan extract carried out the fragment of the dry matter of Jean Quan's (*Sterculia foetida*) pericarp, after extracting under 50-degree-C heating in ethyl acetate for 5 hours, was filtered and used the concentrate which distilled off the solvent of filtrate.
- (8) After the caryophylli flos extract extracted the dry matter of the bud of caryophylli flos (*Syzygium aromaticum* Merrill et Perry) under 50-degree-C heating in ethanol for 5 hours, it was filtered and used the concentrate which distilled off the solvent of filtrate.
- (9) The gardeniae fructus extract ground the dry matter of the fruits (gardeniae fructus) of a gardenia (*Gardenia jasminoides* Ellis), after extracting under 50-degree-C heating in a butanol for 5 hours, was filtered and used the concentrate which distilled off the solvent of filtrate.
- (10) The cuckoo thistle extract carried out the fragment of the dry matter of the terrestrial part of a cuckoo thistle (*Ageratum conyzoides* Linne), after extracting under 50-degree-C heating in 70% ethanol for 5 hours, was filtered and used the concentrate which distilled off the solvent of filtrate.
- (11) The peony extract carried out the fragment of the dry matter of the root of a peony (*Paeonia lactiflora* Pallas or in addition to this allied species), after extracting under 50-degree-C heating in

90% ethanol for 5 hours, was filtered and used the concentrate which distilled off the solvent of filtrate.

[0029]

[A table 1]

[A table 2]

[0030] Decyl tetradecyl dimethylamine oxide is dissolved in ethanol "manufacture approach" 95%. drugs (a fennel extract, a polygoni radix extract, a liquorice extract, and the Cuachalalate extract --) A coriander extract, a physalis radix extract, the Jean Quan extract, a caryophylli flos extract, Oxendolone, finasteride, dipropylene glycol, a hydrogenated-castor-oil ethylene oxide (40 mols) addition product, a succinic acid, and perfume were dissolved, and subsequently, after dissolving in purified water after adding coloring matter and adding to the ethanol section, the transparence liquid-like lotion was obtained by agitating.

[0031]

[A table 3]

[A table 4]

[A table 5]

[0032] clear from "a table 3", "a table 4", and "a table 5" -- as -- the scalp of this invention -- the constituent for the hairs -- the hair-growing effectiveness and the unhairing prevention effectiveness -- excelling -- and a dandruff -- it excels in the - pruritus prevention effectiveness.

[0033] The lotion which consists of a presentation below "an example 12" was adjusted with the conventional method.

A combination component Weight %95% ethanol 55.0 decyl-tetradecyl dimethylamine oxide A 10.0 gardeniae-fructus extract 0.5 punt thenyl ethyl ether 1. 01, 3-butylene glycol 1.5POE hydrogenated castor oil (60-mol addition) 1.0 succinic acids ** amount perfume and a color -- great Amount purified water ** The part manufacture approach: Dissolve decyl tetradecyl dimethylamine oxide in ethanol 95%, and dissolve a gardeniae-fructus extract, punt thenyl ethyl ether, 1, 3-butylene glycol, POE hydrogenated castor oil (60-mol addition), and perfume. Next, after dissolving a succinic acid and coloring matter in purified water and adding to the ethanol section, it was made to agitate and the transparence liquid-like lotion was obtained.

[0034] The lotion which consists of a presentation below "an example 13" was adjusted with the conventional method.

A combination component Weight %95% ethanol 75.0 decyl-tetradecyl dimethylamine oxide A 0.03 cuckoo thistle extract 1.0 hinokitiols 0.2 cepharanthin 0.05 dipropylene glycols 1.0POE(s) (24 mols) and the POP (13 mols) decyl tetradecyl ether 0.5 lactic acids ** *****

Amount perfume and coloring matter ** Amount purified water ** The part manufacture approach : Decyl tetradecyl dimethylamine oxide is dissolved in ethanol 95%. A cuckoo thistle extract,

hinokitiol, cepharanthin, dipropylene glycol, POE (24 mols) and the POP (13 mols) decyl tetradecyl ether, and perfume are dissolved. Next, after dissolving a lactic acid, sodium lactate, and coloring matter in purified water and adding to the ethanol section, it was made to agitate and the transperence liquid-like lotion was obtained.

[0035] The lotion which consists of a presentation below "an example 14" was adjusted with the conventional method.

A combination component Weight %95% ethanol 60.0 decyl-tetradecyl dimethylamine oxide A 20.0 peony extract 0.3 mono-nitroglycerine guaiacol sodium 1.0 vitamins B6 A 0.56-amino benzyl pudding A 0.5 pentadecane acid monoglyceride 1.0 polyethylene glycols -400 0.5POE hydrogenated castor oil (20 mols) 1.0 phosphoric acids ** Amount perfume and coloring matter ** Amount purified water ** The part manufacture approach : Decyl tetradecyl dimethylamine oxide is dissolved in ethanol 95%. Mono-nitroglycerine guaiacol sodium, vitamin B6, a peony extract, 6-amino benzyl pudding, diisopropylamine dichloroacetic acid, a polyethylene glycol -400, POE hydrogenated castor oil (20 mols), and perfume are dissolved. Next, after dissolving a phosphoric acid and coloring matter in purified water and adding to the ethanol section, it was made to agitate and the transperence liquid-like lotion was obtained.

[0036] the scalp of examples 12-14 -- the constituent for the hairs -- the hair-growing effectiveness and the unhairing prevention effectiveness -- excelling -- and a dandruff -- it excelled in the - pruritus prevention effectiveness.

[0037]

[Effect of the Invention] the hair-growing effectiveness and the unhairing prevention effectiveness of having excelled according to this invention, and a dandruff -- the scalp which has the - pruritus prevention effectiveness and was excellent in safety -- the constituent for the hairs can be offered.

TECHNICAL FIELD

[Field of the Invention] this invention -- the scalp -- it is related with the constituent for the hairs. the hair-growing effectiveness and the unhairing prevention effectiveness of having excelled in more detail, and a dandruff -- the scalp which has the - pruritus prevention effectiveness and was excellent in safety -- it is related with the constituent for the hairs.

PRIOR ART

[Description of the Prior Art] the scalp -- various classes to the constituent for the hairs -- it is -- various scalp -- the product corresponding to a hair condition is developed as the charge of hair makeup, a hair restorer, etc. For example, the product which prevents unhairing is developed by preventing the dandruff and pruritus in the scalp.

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and / the scalp] -- the need of the charge of hair makeup is increasing rapidly.

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[0007] the conventional scalp -- the constituent for the hairs blends the matter with the operation which generally removes the element considered to be the cause of these bald heads and unhairing, or is mitigated. For example, skin hyperergasia agents, such as hormone drugs for women, such as anti-inflammatory agents, such as vasodepressor, such as amino acid, such as vitamins, such as vitamin B and vitamin E, a serine, and a methionine, a sialid extract, and an acetylcholine derivative, and a lithospermiradix extract, and estradiol, and cepharanthin, etc. are blended, and it is used for the prevention and the therapy for which a bald head, unhairing, and hair become thin.

EFFECT OF THE INVENTION

[Effect of the Invention] the hair-growing effectiveness and the unhairing prevention effectiveness of having excelled according to this invention, and a dandruff -- the scalp which has the - pruritus prevention effectiveness and was excellent in safety -- the constituent for the hairs can be offered.

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] however, these -- a component -- a little chisel -- the scalp -- even if blended into the constituent for the hairs, since an activity part and the inclination accompanied by a feeling of a stimulus and the rubor deep to the circumference of it would become strong if it blends with reverse so much difficultly, the loadings had a limit, and acquiring sufficient effectiveness had the trouble that desired effectiveness was not necessarily acquired fully.

[0009] the dandruff of the hair-growing effectiveness and the unhairing prevention effectiveness of having excelled by blending combining decyl tetradecyl dimethylamine oxide and a testosterone 5alpha reductase inhibitor as a result of this invention person's etc. repeating research wholeheartedly in view of an above-mentioned viewpoint, and the scalp -- the scalp which has the - pruritus prevention effectiveness and is excellent also in safety -- it came to complete header this

invention for the constituent for the hairs being obtained.

[0010] the dandruff of the hair-growing effectiveness and the unhairing prevention effectiveness that this invention was excellent, and the scalp -- the scalp which has the - pruritus prevention effectiveness and is excellent also in safety -- it aims at offering the constituent for the hairs.

MEANS

[Means for Solving the Problem] namely, the scalp characterized by this invention containing decyl tetradecyl dimethylamine oxide and a testosterone 5alpha reductase inhibitor -- the constituent for the hairs is offered.

[0012] Said testosterone 5alpha reductase inhibitor this invention Moreover, cube gambir, Achicolia, IERUBARUISA, a yew, INCHIN, WORO, a fennel, A common mallow, Rose Fruit, ORUTIGANIGURA, a polygala root, Prunellae Spica, KAKOCHA, a polygona radix, a cuckoo thistle; a valerian, guarana, cardo SANTO, Liquorice, a Japanese catalpa, a common marigold, Osmanthus fragrans, Schizonepetae herba, a pharbitidis semen, A Geranium thunbergii Sieb. et Zucc., Cuachalalate, Chelidonium, KUMASEBA, a gallnut, Arctii fructus, coriander, cassia, Phycho, a gardeniae fructus, a physalis radix, A peony, Plantaginis semen, Jean Quan, Jo Zhang, a cedron, bufonis venenum, SOKUHAKUYOU, perilla herb, rhei rhizoma, Daun trawas, Chanca Piedra, Caryophylli flos, picrasma wood, areca, a matico, a Chinese quince, Leonuri Herba, a climax lespedeza, the aforementioned scalp characterized by being the solvent extraction extract of a kind or two sorts or more of vegetation chosen from the group which consists of a coix seed, REGURO, rosin, and cotton, oxendolone, or finasteride -- the constituent for the hairs is offered.

[0013] furthermore, this invention -- the content of said decyl tetradecyl dimethylamine oxide -- the scalp -- the aforementioned scalp characterized by being 0.0001 - 20 % of the weight to the constituent whole quantity for the hairs -- the constituent for the hairs is offered.

[0014] moreover, this invention -- the content of said testosterone 5alpha reductase inhibitor -- the scalp -- the aforementioned scalp characterized by being 0.001 - 10 % of the weight to the constituent whole quantity for the hairs -- the constituent for the hairs is offered.

[0015]

[Embodiment of the Invention] Hereafter, the configuration of this invention is explained in full detail.

[0016] 2-decyl tetradecyl dimethylamine oxide which the decyl tetradecyl dimethylamine oxide used for this invention is a well-known compound, for example, is expressed with the following chemical formula is used preferably.

[Formula 1]

[0017] The testosterone 5alpha reductase inhibitor used for this invention It is the matter which controls the operation over the testosterone of testosterone 5alpha reductase, and sets to this invention. A desirable testosterone 5alpha reductase inhibitor Cube gambir, achicolia, IERUBARUISA, a yew, INCHIN, WORO, A fennel, a common mallow, Rose Fruit, ORUTIGANIGURA, a polygala root, Prunellae Spica, KAKOCHA, a polygona radix, a cuckoo thistle, a valerian, guarana, Cardo SANTO, liquorice, a Japanese catalpa, a common marigold,

Osmanthus fragrans, Schizonepetae herba, A pharbitidis semen, a Geranium thunbergii Sieb. et Zucc., Cuachalalate, Chelidonium, KUMASEBA, A gallnut, Arctii fructus, coriander, cassia, Phycho, a gardeniae fructus, A physalis radix, a peony, Plantaginis semen, Jean Quan, Jo Zhang, a cedron, Bufonis venenum, SOKUHAKUYOU, perilla herb, rhei rhizoma, Daun trawas, Chanca Piedra, They are the solvent extraction extract of a kind or two sorts or more of vegetation chosen from the group which consists of caryophylli flos, picrasma wood, areca, a matico, a Chinese quince, Leonuri Herba, a climax lespedeza, a coix seed, REGURO, rosin, and cotton, oxendolone, or finasteride.

[0018] The solvent extraction extract of the above-mentioned vegetation is an extract by water or the organic solvent. For example, the terrestrial part of the above-mentioned vegetation, a flower, a seed, fruits, a leaf, a root, the desiccation powder of the entire plant, or a non-drying decision object By water, a methanol, ethanol, propylene glycol, 1, 3-butylene glycol, a butanol, chloroform, dichloroethane, the carbon tetrachloride, ethyl acetate, the ether, or such mixtures 30-70-degree C warming -- the bottom, a stirring extract can be carried out for 1 to 10 hours, or at a room temperature, it can extract during the 1st - the 20th, and can filter, filtrate can be condensed, and what carried out vacuum concentration further and hardened by drying can be used. In this invention, it can be used [the phase of concentration liquid, or] and can be used also in the phase of a hardening-by-drying object.

[0019] the loadings of decyl tetradecyl dimethylamine oxide -- the scalp -- it is 0.0001 - 20 % of the weight to the constituent whole quantity for the hairs, and is 0.05% - 5% % of the weight preferably. It gives [the scalp] an unpleasant feeling of stickiness, or a feeling of a stimulus on an activity and is not desirable, if hair-growing effectiveness sufficient at less than 0.0001 % of the weight, the unhairing prevention effectiveness, and the scalp play truant, and the - pruritus prevention effectiveness is not acquired but it exceeds 20 % of the weight.

[0020] moreover, the loadings of a testosterone 5alpha reductase inhibitor -- the scalp -- it is 0.001 - 5 % of the weight to the constituent whole quantity for the hairs, and is 0.01% - 5 % of the weight preferably. Since an unpleasant feeling of a stimulus may be given to a pharmaceutical preparation top or the scalp or a hormone action may be shown if unhairing prevention sufficient at less than 0.0001 % of the weight, the hair-growing effectiveness, and the scalp play truant, and the - pruritus prevention effectiveness is not acquired but it exceeds 10 % of the weight, it is not desirable. In addition, when a testosterone 5alpha reductase inhibitor is a vegetable solvent extraction extract, it is weight [as an extract after removing a hardening-by-drying object or an extracting solvent] %.

[0021] the scalp of this invention -- the constituent for the hairs can be manufactured with a conventional method according to the dosage forms which blend suitably solvents, such as other components usually used for the charge of makeup, for example, an oil content, a surfactant, a moisturizer, a thickener, an ultraviolet ray absorbent, an antioxidant, antiseptics, perfume, coloring matter, water, and alcohol, if needed, and are made into the object in the range which does not spoil the effectiveness of this invention other than the above-mentioned indispensable component.

[0022] the scalp of this invention -- if the constituent for the hairs is the external preparations applied to the scalp or the hair as the charge of makeup, drugs, and quasi drugs and it is the thing of pharmaceutical forms applicable to external use, such as a liquid, a milky lotion, ointment, a cream, gel, and aerosol, with the arbitrary for example, pharmaceutical form, any will be sufficient, for example, it will be used with gestalten, such as a tonic and a scalp treatment.

EXAMPLE

[Example] Next, although an example is given and this invention is explained in more detail, this invention is not limited only to these examples. In the following examples, loadings are weight %. Moreover, decyl tetradecyl dimethylamine oxide used 2-decyl tetradecyl dimethylamine oxide.

[0024] the following trial about the example and the example of a comparison which are shown in "a table 1" and "a table 2", and the assessment approach -- the hair-growing effectiveness, the unhairing prevention effectiveness, and a dandruff -- the - pruritus prevention effectiveness was examined. The result is shown in "a table 3", "a table 4", and "a table 5."

[0025] "the hair-growing effectiveness trial" -- the scalp -- in order to investigate the hair-growing effectiveness operation of the constituent for the hairs, the TORIKO gram trial was carried out. A test subject is a male and was taken as each ten groups of an example and the example of a comparison. The duration of test considered as four months, and the sample was applied to the bis die and it applied 2-4ml per time to the scalp at the sample spreading period. just before spreading initiation and after four-month spreading termination -- per test subject -- from the parietal region -- random -- the terminal hair -- respectively -- every 50 -- extraction -- carrying out -- the hair root of an epilated hair -- the bottom of a microscope -- observing -- the hair root from the condition of a hair root -- the rate of a resting phase (%) was calculated. The rate of the change in the rate of a resting phase before and behind sample spreading was judged on the following criteria.

(Criterion)

remarkable effectiveness: -- a hair root -- the rate of a resting phase -- 30% or more reduction -- effective : a hair root -- the rate of a resting phase -- 20% or more reduction -- weak effectiveness : a hair root -- the rate of a resting phase has no 10% or more reduction effectiveness : a hair root -- the case where a test subject [that the rate of a resting phase is as effective as remarkable effectiveness as assessment of less than ten reduction or the increment (hair-growing effectiveness valuation basis) hair-growing effectiveness] exceeded 50% was confirmed, and others were taken as the invalid.

[0026] "the unhairing prevention effectiveness trial" -- the scalp -- in order to investigate the unhairing prevention effectiveness of the constituent for the hairs, change of the unhairing number by the shampoo before and behind the sample activity of an example and the example of a comparison was measured. A test subject is a male and was taken as each ten groups of the example of a comparison, and an example. The duration of test considered as six months, and sample non-applied period, and anaphase four months were made into the sample spreading period for [of the first half] two months. The sample was applied to the bis die and 2-4ml per time was applied to the scalp at the sample spreading period. Its hair was shampooed every other day, fallen hair was collected, a part for 1 week was summarized, and the number of the terminal hair was counted throughout [trial term]. Assessment of the number of fallen hair compared the last week average with the anaphase last week average in the first half using the fallen hair number per shampoo of a sample spreading period. This result was judged by the following criteria.

(Criterion)

++ : the fallen hair number was decreasing or more by 70, and remarkable effectiveness was accepted.

+ : the fallen hair number was decreasing or more by 40, and effectiveness was accepted considerably.

** : The fallen hair number was decreasing or more by ten, and effectiveness was accepted a little.

- : a fallen hair number is the increment in reduction of less than ten, or the number of fallen hair,

and effectiveness was not accepted.

(Valuation basis) As assessment of the unhairing prevention effectiveness, the case where the percentage of the test subject of ++ and + was 50% or more was confirmed, and others were taken as the invalid.

[0027] "-- a dandruff - pruritus prevention effectiveness trial" -- especially -- a dandruff -- an object [man / who appeals against - pruritus] -- carrying out -- each ten groups of the example of a comparison, and an example -- the dandruff after test termination - pruritus -- investigating -- a dandruff -- the inner amount of protein and extent of pruritus estimated. The sample spreading period shampooed its hair once per day with a drugs additive-free shampoo for three months in the meantime, and the sample was applied to the bis die and it applied 2-4ml per time to the scalp. the time of test termination -- a test subject -- before a shampoo -- an aspirator -- a head -- a dandruff -- extracting -- a dandruff -- the amount of inside protein was measured. Moreover, it investigated about the pruritus of the scalp to each test subject, and the extent was evaluated in accordance with the following criteria.

3: 2: with strong pruritus -- 1: with pruritus -- 0: which has pruritus a little -- [0028] which pruritus does not have The solvent extraction extract of the vegetation used in the example is as follows.

(1) The fennel extract ground the dry matter of the fruits of a fennel (*Foeniculum vulgare* Miller), after extracting for one week under a room temperature in 70% ethanol, was filtered and used the concentrate which distilled off the solvent of filtrate.

(2) The polygoni radix extract carried out the fragment of the dry matter of the tuberous root (polygoni radix) of *Polygonum multiflorum* (*Polygonum multiflorum* Thunbergii), after extracting under 50-degree-C heating in 50% ethanol for 5 hours, was filtered and used the concentrate which distilled off the solvent of filtrate.

(3) The liquorice extract carried out the fragment of the root of liquorice (*Glycyrrhiza glabra* Linne or *glycyrrhizauralensis* second Fisher), and the dry matter of a rhizome, after being underwater and extracting under 100-degree-C heating for 5 hours, was filtered and used the concentrate which distilled off the solvent of filtrate.

(4) The Cuachalalate extract carried out the fragment of the dry matter of the bark of Cuachalalate (*Juliania adstringens*), after extracting under 50-degree-C heating in a methanol for 5 hours, was filtered and used the concentrate which distilled off the solvent of filtrate.

(5) The coriander extract ground the dry matter of the fruits of coriander (*Coriandrum sativum* Linne), after extracting under 70-degree-C heating in 75% ethanol for 5 hours, was filtered and used the concentrate which distilled off the solvent of filtrate.

(6) The physalis radix extract carried out the fragment of the dry matter of pericarp with which the physalis radix (*Zanthoxylum piperitum* De Candolle or in addition to this species of the same genus) matured, after extracting under 50-degree-C heating in ethanol for 5 hours, was filtered and used the concentrate which distilled off the solvent of filtrate.

(7) The Jean Quan extract carried out the fragment of the dry matter of Jean Quan's (*Sterculia foetida*) pericarp, after extracting under 50-degree-C heating in ethyl acetate for 5 hours, was filtered and used the concentrate which distilled off the solvent of filtrate.

(8) After the caryophylli flos extract extracted the dry matter of the bud of caryophylli flos (*Syzygium aromaticum* Merrill et Perry) under 50-degree-C heating in ethanol for 5 hours, it was filtered and used the concentrate which distilled off the solvent of filtrate.

(9) The gardeniae fructus extract ground the dry matter of the fruits (gardeniae fructus) of a gardenia (*Gardenia jasminoides* Ellis), after extracting under 50-degree-C heating in a butanol for 5 hours, was filtered and used the concentrate which distilled off the solvent of filtrate.

(10) The cuckoo thistle extract carried out the fragment of the dry matter of the terrestrial part of a cuckoo thistle (*Ageratum conyzoides* Linne), after extracting under 50-degree-C heating in 70% ethanol for 5 hours, was filtered and used the concentrate which distilled off the solvent of filtrate.

(11) The peony extract carried out the fragment of the dry matter of the root of a peony (*Paeonia lactiflora* Pallas or in addition to this allied species), after extracting under 50-degree-C heating in 90% ethanol for 5 hours, was filtered and used the concentrate which distilled off the solvent of filtrate.

[0029]

[A table 1]

[A table 2]

[0030] Decyl tetradecyl dimethylamine oxide is dissolved in ethanol "manufacture approach" 95%. drugs (a fennel extract, a *polygona* radix extract, a liquorice extract, and the Cuachalalate extract --) A coriander extract, a *physalis* radix extract, the Jean Quan extract, a *caryophylli* flos extract, Oxendolone, finasteride, dipropylene glycol, a hydrogenated-castor-oil ethylene oxide (40 mols) addition product, a succinic acid, and perfume were dissolved, and subsequently, after dissolving in purified water after adding coloring matter and adding to the ethanol section, the transparence liquid-like lotion was obtained by agitating.

[0031]

[A table 3]

[A table 4]

[A table 5]

[0032] clear from "a table 3", "a table 4", and "a table 5" -- as -- the scalp of this invention -- the constituent for the hairs -- the hair-growing effectiveness and the unhairing prevention effectiveness -- excelling -- and a dandruff -- it excels in the - pruritus prevention effectiveness.

[0033] The lotion which consists of a presentation below "an example 12" was adjusted with the conventional method.

A combination component Weight %95% ethanol 55.0 decyl-tetradecyl dimethylamine oxide A 10.0 gardeniae-fructus extract 0.5 punt thenyl ethyl ether 1. 01, 3-butylene glycol 1.5POE hydrogenated castor oil (60-mol addition) 1.0 succinic acids ** amount perfume and a color -- great Amount purified water ** The part manufacture approach: Dissolve decyl tetradecyl dimethylamine oxide in ethanol 95%, and dissolve a gardeniae fructus extract, punt thenyl ethyl ether, 1, 3-butylene glycol, POE hydrogenated castor oil (60-mol addition), and perfume. Next, after dissolving a succinic acid and coloring matter in purified water and adding to the ethanol section, it was made to agitate and the transparence liquid-like lotion was obtained.

[0034] The lotion which consists of a presentation below "an example 13" was adjusted with the conventional method.

A combination component Weight %95% ethanol 75.0 decyl-tetradecyl dimethylamine oxide A 0.03 cuckoo thistle extract 1.0 hinokitiols 0.2 cepharanthin 0.05 dipropylene glycols 1.0POE(s) (24 mols) and the POP (13 mols) decyl tetradecyl ether 0.5 lactic acids ** *****

Amount perfume and coloring matter ** Amount purified water ** The part manufacture approach : Decyl tetradecyl dimethylamine oxide is dissolved in ethanol 95%. A cuckoo thistle extract, hinokitiol, cepharanthin, dipropylene glycol, POE (24 mols) and the POP (13 mols) decyl tetradecyl ether, and perfume are dissolved. Next, after dissolving a lactic acid, sodium lactate, and coloring matter in purified water and adding to the ethanol section, it was made to agitate and the transperence liquid-like lotion was obtained.

[0035] The lotion which consists of a presentation below "an example 14" was adjusted with the conventional method.

A combination component Weight %95% ethanol 60.0 decyl-tetradecyl dimethylamine oxide A 20.0 peony extract 0.3 mono-nitroglycerine guaiacol sodium 1.0 vitamins B6 A 0.56-amino benzyl pudding A 0.5 pentadecane acid monoglyceride 1.0 polyethylene glycols -400 0.5POE hydrogenated castor oil (20 mols) 1.0 phosphoric acids ** Amount perfume and coloring matter ** Amount purified water ** The part manufacture approach : Decyl tetradecyl dimethylamine oxide is dissolved in ethanol 95%. Mono-nitroglycerine guaiacol sodium, vitamin B6, a peony extract, 6-amino benzyl pudding, diisopropylamine dichloroacetic acid, a polyethylene glycol -400, POE hydrogenated castor oil (20 mols), and perfume are dissolved. Next, after dissolving a phosphoric acid and coloring matter in purified water and adding to the ethanol section, it was made to agitate and the transperence liquid-like lotion was obtained.

[0036] the scalp of examples 12-14 -- the constituent for the hairs -- the hair-growing effectiveness and the unhairing prevention effectiveness -- excelling -- and a dandruff -- it excelled in the - pruritus prevention effectiveness.
